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Media Advisory: To contact Carol S. North, M.D., M.P.E., call LaKisha Ladson at 214-648-3404 or email lakisha.ladson@utsouthwestern.edu.

Close Proximity and Trauma Exposures More Likely to Result in Post-Traumatic Stress Disorder

New Study Looks at PTSD Among Employees of New York City Companies Affected by September 11, 2001 Attacks

CHICAGO -- Geographic distance and direct trauma exposures are associated with an increased risk of developing post-traumatic stress disorder (PTSD), according to a new study that examines data from employees of New York City companies affected by the September 11, 2001 attacks on the World Trade Center (WTC). The paper is being published online first by the *Disaster Medicine and Public Health Preparedness* journal, a publication of the American Medical Association. This special theme issue with several articles related to the 10th anniversary of the September 11 attacks in the United States is available online at the journal's website, <http://www.dmph.org>.

“Effective disaster mental health planning and response depend on accurate information about the numbers of people who will need distinct types of services,” the authors write in background information in the article. “In large-scale disasters such as the September 11, 2001 attacks affecting large populations, estimated proportions may translate into tens and hundreds of thousands of people needing services.” The authors note, “Yet even though the 9/11 attacks constituted an undeniable trauma, the occurrence of a traumatic event is not sufficient for the diagnosis of PTSD; a qualifying exposure to the traumatic event is also necessary for consideration of this diagnosis.” The authors add that “exposure cannot be assumed; it must be determined on a case-by-case basis.”

This study by Carol S. North, M.D., M.P.E., from the VA North Texas Health Care System and the University of Texas Southwestern Medical Center, Dallas, and colleagues examined disaster trauma exposure and its relationship to PTSD in a sample of 379 employees of eight New York City organizations (176 from WTC tower companies and 203 from organizations not in the towers) with a range of exposures, including some who were evacuated from the WTC towers and others who were nearby. “This study uniquely combined assessment of PTSD according to full DSM-IV-TR criteria with

detailed data about geographical proximity and specific experiences of the 9/11 WTC attacks for determination of qualifying trauma exposure,” the authors write. Study participants provided information approximately three years after the 9/11 attacks and a follow-up assessment was conducted at approximately six years post-disaster. The participants were interviewed with the Diagnostic Interview Schedule/Disaster Supplement and symptoms assessed by the DSM-IV-TR qualifying 9/11 trauma exposures: “physical endangerment (by planes striking the towers and collapse of the towers, fleeing the falling towers and debris, physical injury in the attacks); witnessing injury to others either during the attacks or during the aftermath at the Ground Zero site during the recovery operation (e.g., people falling from the towers, people with severe injuries, dead bodies and body parts); and through exposures of close associates (i.e., immediate family members/friends).” Also factored in was the study participant’s geographical proximity by a calculation of the nearest reported location to the towers during the attacks.

“In summary, 169 (45 percent of the sample) had a DSM-IV-TR qualifying exposure: of these, 102 were physically exposed to danger in the attacks, another 41 not physically endangered were exposed through directly witnessing the attacks of the Ground Zero aftermath, and another 26 were exposed only through the exposure of a close associate,” the authors report. “The direct exposure zone was largely concentrated within a radius of 0.1 mile and completely contained within .75 mile of the towers.”

“The post disaster prevalence rate of PTSD in the first three years was 35 percent of those in the towers or nearby who were directly exposed to physical danger in the attacks, a finding that is remarkably consistent with the 34 percent PTSD incidence identified among directly exposed survivors of the Oklahoma City bomb blast in the first six months using the same assessment tool,” the authors note. “These findings collectively suggest that among highly exposed survivors of severe terrorist incidents, one-third may be expected to develop PTSD.”

In conclusion the authors write: “Reflecting on a decade of mental health research on the 9/11 attacks, it is clear that the complexities of exposure in estimation of PTSD present a substantial challenge to researchers to provide accurate information to guide disaster mental health planning. A substantial proportion of people in the current study who were directly exposed to physical danger or exposed through close associates developed PTSD. This PTSD was relatively persistent. Among those outside of a small geographic distance from the towers without known qualifying exposures – who cannot by

definition be diagnosed with PTSD – a small proportion, representing potentially large numbers of people in extended populations, may develop similar symptoms.”

“The importance of examining trauma exposures with precision is relevant for populations with other types of trauma, such as combat veterans who deserve similar careful consideration of trauma exposures in relations to PTSD.”

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